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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,730	10/01/2003	Michael A. Bridges	VANS121762	2936
26389	7590	11/04/2005		
CHRISTENSEN, O'CONNOR, JOHNSON, KINDNESS, PLLC 1420 FIFTH AVENUE SUITE 2800 SEATTLE, WA 98101-2347			EXAMINER KIM, YOON YOUNG	
			ART UNIT 1723	PAPER NUMBER

DATE MAILED: 11/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/676,730

Applicant(s)

BRIDGES ET AL.

Examiner

Yoon-Young Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 20 and 22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19, 21, 23 and 24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 0305,0204.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Election/Restrictions*

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-19, 21, and 23-24 drawn to a gravity fed water purification cartridge, classified in class 210, subclass 474.
  - II. Claims 20 and 22, drawn to a gravity fed water purification system, classified in class 210, subclass 257.1.

2. The inventions are distinct, each from the other because:

Inventions II and I are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention II does not require the inlet cap, ring member, purifier vessel, bulkhead, dwell chamber, and outer skin of Invention I. The subcombination has separate utility such as in a combination that does not require the prefilter interior of Invention II.

Restriction for examination purposes is proper because these inventions are distinct for the reasons given above and also because (i) they have acquired a separate status in the art as shown by their different classification, (ii) the search required for the respective groups is not necessarily required by each of the other groups, and (iii) their subject matter is recognized as divergent.

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3. During a telephone conversation with Laura Cruz on October 18, 2005 a provisional election was made without traverse to prosecute the invention of the gravity fed water purification cartridge, Claims 1-19, 21, and 23-24. Affirmation of this election must be made by applicant in replying to this Office action. Claims 20 and 22 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 16 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Hatch et al., U.S. Patent No. 5,897,770.

Regarding Claim 16, Hatch discloses a water purification cartridge, comprising: an inlet member (#6) configured to provide treated water in a first axial direction; a ring member (#34) adjacent to the inlet member; a purifier vessel (#18) adjacent to the ring member, wherein the purifier vessel is configured to treat the untreated water to provide treated water; a bulkhead (#12) adjacent to the purifier vessel, wherein the bulkhead is configured to separate untreated water from treated water; a dwell chamber (#16) exterior to the purifier vessel wherein the dwell chamber is configured to provide treated water flow in a second axial direction opposite to the first axial direction.

Regarding Claim 19, Hatch discloses that the ring member distributed untreated water in a radial direction (Fig. 5, #30).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-5, 7-12, 14-15, and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hatch in view of Worley et al., U.S. Patent No. 6,548,054 B2.

Regarding Claim 1, Hatch discloses a gravity fed water purification cartridge, comprising: an inlet head cap (#6); a ring member (#34) in fluid flow communication with the inlet head cap; a purifier vessel (#18) in fluid flow communication with the ring member; a bulkhead (#12) coupled to the inlet head cap; a dwell chamber (#16) coupled to the bulkhead, wherein the dwell chamber is in fluid flow communication with the purifier vessel; and an outer skin (#4) coupled to the bulkhead, wherein the outer skin and dwell chamber provide an annular space therebetween. Hatch discloses that the purifier vessel contains halogenated ion exchange resin (Col. 8, Lines 20-23) but does not disclose polystyrene hydantoin or hydantoinylated siloxane. Worley teaches halogenated polystyrene hydantoin where the halogen is chlorine or bromine

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(Col. 3, Lines 32-41). It would have been obvious to one of ordinary skill in the art to modify Hatch with the element of Worley in order to prevent noxious odors (Col. 2, Lines 15-22).

Regarding Claim 2, Worley discloses that the polymer is capable of binding and releasing a halogen (Col. 4, Lines 22-25).

Regarding Claim 3, Hatch discloses that the inlet head cap compresses the ring member (#34) against the purifier vessel (#18), and the purifier vessel is compressed against the bulkhead to provide a sealed space.

Regarding Claim 4, Hatch in view of Worley does not disclose the capacity of the purifier vessel. One of skill in the art would by routine experimentation find the optimum capacity. It would have been obvious to one of skill in the art to make the purifier vessel capacity of Hatch in view of Worley as desired or required to optimize filtration.

Regarding Claim 5, Worley discloses halogenated polystyrene hydantoin (Col. 3, Lines 32-41).

Regarding Claim 7, Hatch discloses that the purifier vessel is seated on a gasket (#14). Further, one of skill in the art would by routine experimentation find the optimum hardness. It would have been obvious to one of skill in the art to make the hardness of the gasket as so desired or required to optimize filtration.

Regarding Claim 8, it would have been obvious that the gasket is non-leaching and suitable for drinking water applications since it is used in a filtration system for drinking water (Col. 1, Lines 5-7).

Regarding Claim 9, Hatch discloses that a gasket (#14) is located at the coupling of the inlet head cap (#6) to the bulkhead (#12).

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Regarding Claim 10, one of skill in the art would by routine experimentation find the optimum hardness. It would have been obvious to one of skill in the art to make the hardness of the gasket as so desired or required to optimize filtration.

Regarding Claim 11, Hatch in view of Worley does not disclose the residence time. One of skill in the art would by routine experimentation find the residence time. It would have been obvious to one of skill in the art to make the residence time of Hatch in view of Worley as desired or required to optimize filtration.

Regarding Claims 12, Hatch discloses that the annular space is configured to hold an additional water treatment medium (#10).

Regarding Claim 14, Hatch in view of Worley does not disclose the material of manufacture of the purification cartridge. It would be obvious to one of ordinary skill in the art to make the filter resistant to any substance that may be in the water.

Regarding Claim 15, Hatch in view of Worley does not disclose the aspect ratio. One of skill in the art would by routine experimentation find the aspect ratio. It would have been obvious to one of skill in the art to make the aspect ratio of Hatch in view of Worley as desired or required to optimize filtration.

Regarding Claim 23, Hatch discloses a water purification cartridge, comprising: a purifier vessel (#18) and a dwell chamber (#16). However, Hatch does not disclose that the purifier vessel contains a polymer having pendant hydantoin groups. Worley teaches halogenated polystyrene hydantoin (Col. 3, Lines 32-41). It would have been obvious to one of ordinary skill in the art to modify Hatch with the element of Worley in order to prevent noxious odors (Col. 2, Lines 15-22).

Regarding Claim 24, Worley discloses that the halogen is chlorine or bromine (Col. 3, Lines 32-41).

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8. Claims 1-2, 4-6, 11-15, and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mead, U.S. Patent No. 5,308,482 in view of Worley.

Regarding Claim 1, Mead discloses a gravity fed water purification cartridge, comprising: an inlet head cap (Fig. 3, #52), wherein the inlet head cap provides an inlet for untreated water; a ring member (#70) in fluid flow communication with the inlet head cap; a purifier vessel (inner part of #51) in fluid flow communication with the ring member; a bulkhead (outer part of #51) coupled to the inlet head cap; a dwell chamber (#30,32) coupled to the bulkhead, wherein the dwell chamber is in fluid flow communication with the purifier vessel; and an outer skin (#34) coupled to the bulkhead, wherein the outer skin and dwell chamber provide an annular space (#16) therebetween. Mead discloses that the purifier vessel contains a microbiocide but does not disclose a polymer having pendant hydantoin groups. Worley teaches halogenated polystyrene hydantoin (Col. 3, Lines 32-41). It would have been obvious to one of ordinary skill in the art to modify Mead with the element of Worley because it is a biocide used in water filters (Col. 2, Lines 15-22).

Regarding Claim 2, Worley discloses that the polymer is capable of binding and releasing a halogen (Col. 4, Lines 22-25).

Regarding Claim 4, Mead in view of Worley does not disclose the capacity of the purifier vessel. One of skill in the art would by routine experimentation find the optimum capacity. It would have been obvious to one of skill in the art to make the purifier vessel capacity of Mead in view of Worley as desired or required to optimize filtration.

Regarding Claim 5, Worley discloses halogenated polystyrene hydantoin (Col. 3, Lines 32-41).



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Regarding Claim 6, Mead discloses that the purifier vessel comprises a plurality of pegs configured to transfer a compressive force induced by the inlet head cap to a flange on the purifier vessel (Col. 1, Lines 53-60).

Regarding Claim 11, Mead discloses that the dwell chamber provides a residence time of at least about 2 to about 5 minutes (Col. 2, Lines 56-60).

Regarding Claims 12-13, Mead discloses that the annular space is configured to hold an additional water treatment medium that includes at least one of activated carbon, mineralization materials, or heavy metal removal agents (Col. 2, Lines 28-35).

Regarding Claim 14, Mead in view of Worley does not disclose the material of manufacture of the purification cartridge. It would be obvious to one of ordinary skill in the art to make the filter resistant to any substance that may be in the water.

Regarding Claim 15, Mead in view of Worley does not disclose the aspect ratio. One of skill in the art would by routine experimentation find the aspect ratio. It would have been obvious to one of skill in the art to make the aspect ratio of Mead in view of Worley as desired or required to optimize filtration.

Regarding Claim 23, Mead discloses a water purification cartridge, comprising: a purifier vessel (#22) and a dwell chamber (#30,32). Mead discloses that the purifier vessel contains a microbiocide but does not disclose a polymer having pendant hydantoin groups. Worley teaches halogenated polystyrene hydantoin (Col. 3, Lines 32-41). It would have been obvious to one of ordinary skill in the art to modify Mead with the element of Worley because it is a biocide used in water filters (Col. 2, Lines 15-22).

Regarding Claim 24, Worley discloses that the halogen is chlorine or bromine (Col. 3, Lines 32-41).

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9. Claims 17-18 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hatch in view of Worley.

Regarding Claims 17-18 and 21, Hatch discloses that the purifier vessel contains halogenated ion exchange resin (Col. 8, Lines 20-23) but does not disclose polystyrene hydantoin or hydantoinylated siloxane. Worley teaches halogenated polystyrene hydantoin where the halogen is chlorine or bromine (Col. 3, Lines 32-41). It would have been obvious to one of ordinary skill in the art to modify Hatch with the element of Worley in order to prevent noxious odors (Col. 2, Lines 15-22).


### ***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yoon-Young Kim whose telephone number is (571) 272-2240. The examiner can normally be reached on 8:30-4:30, Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker can be reached on (571) 272-1151. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YK  
10/20/05

  
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